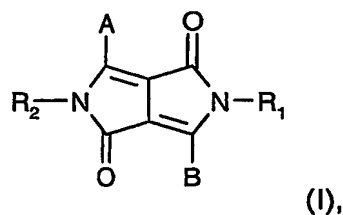
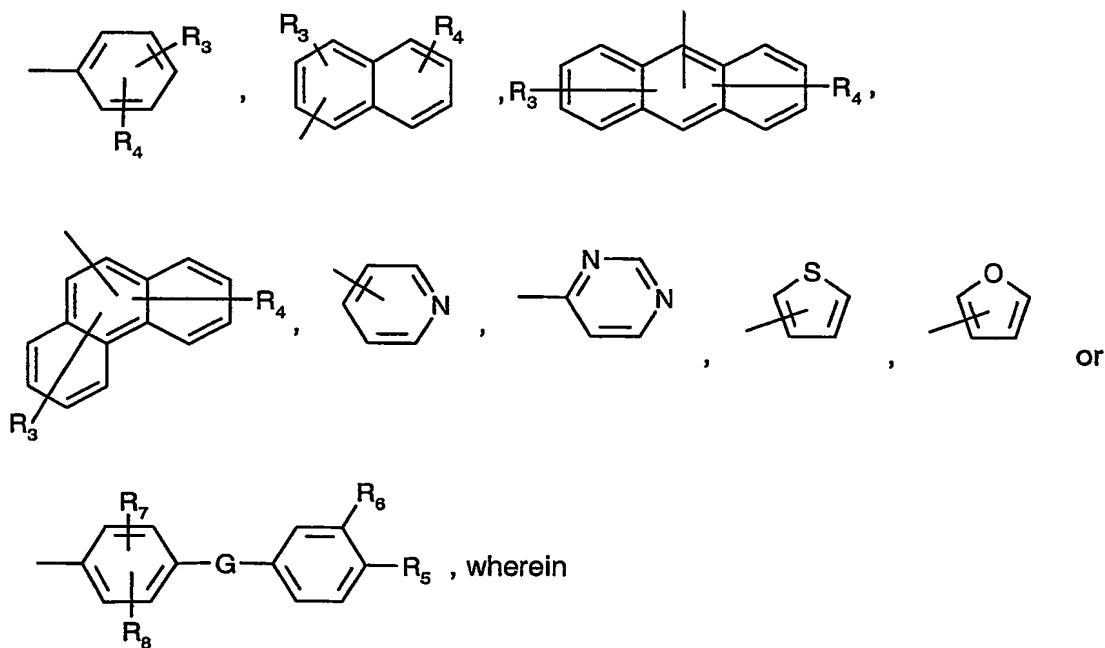


## Claims

1. A colour filter comprising a transparent substrate and a layer comprising from 1 to 75% by weight, preferably from 5 to 50% by weight, with particular preference from 25 to 40% by weight, based on the overall weight of the layer, of a diketopyrrolopyrrole of the general formula (I) dispersed in a high molecular mass organic material:



wherein A and B independently of one another are a group of the formula



$R_3$  and  $R_4$  independently of one another are hydrogen, halogen,  $C_1$ - $C_{18}$ alkyl,  $C_1$ - $C_{18}$ alkoxy,  $-NR_{16}R_{17}$ ,  $-CONHR_{18}$ ,  $-COOR_{19}$ ,  $-SO_2NH-R_{20}$ ,  $C_1$ - $C_{18}$ alkoxycarbonyl,  $C_1$ - $C_{18}$ alkylaminocarbonyl,  $-CN$ ,  $-NO_2$ , trifluoromethyl,  $C_5$ - $C_7$ cycloalkyl,

$-C=N-(C_1-C_{18}alkyl)$ ,  $-C=N-$  (substituted phenyl), imidazolyl, pyrazolyl, triazolyl,

piperazinyl, pyrrolyl, oxazolyl, benzoxazolyl, benzothiazolyl, benzimidazolyl, morpholinyl, piperidinyl or pyrrolidinyl,

G is  $-\text{CH}_2-$ ,  $-\text{CH}(\text{CH}_3)-$ ,  $-\text{C}(\text{CH}_3)_2-$ ,  $-\text{CH}=\text{N}-$ ,  $-\text{N}=\text{N}-$ ,  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{SO}-$ ,  $-\text{SO}_2-$ ,  $-\text{CONH}-$  or  $-\text{NR}_9-$ ,

$\text{R}_5$  and  $\text{R}_6$  independently of one another are hydrogen, halogen,  $\text{C}_1$ - $\text{C}_6$ alkyl,  $\text{C}_1$ - $\text{C}_{18}$ alkoxy or  $-\text{CN}$ ,

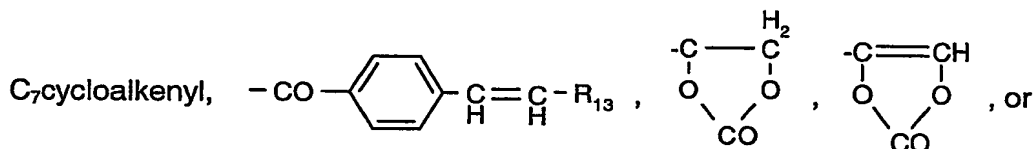
$\text{R}_7$  and  $\text{R}_8$  independently of one another are hydrogen, halogen or  $\text{C}_1$ - $\text{C}_6$ alkyl and  $\text{R}_9$  is hydrogen or  $\text{C}_1$ - $\text{C}_6$ alkyl,

$\text{R}_1$  and  $\text{R}_2$  are independently of each other  $\text{C}_1$ - $\text{C}_{18}$ alkyl,  $\text{C}_1$ - $\text{C}_{18}$ alkyl, which is interrupted one or more times by O or S,  $\text{C}_6$ - $\text{C}_{12}$ aryl,  $\text{C}_7$ - $\text{C}_{12}$ aralkyl, or a group of the formula  $-\text{C}(\text{O})\text{OR}_{10}$ , wherein  $\text{R}_{10}$  is  $\text{C}_1$ - $\text{C}_{18}$ alkyl,  $\text{C}_5$ - $\text{C}_{10}$ cycloalkyl,  $\text{C}_6$ - $\text{C}_{12}$ aryl, or  $\text{C}_7$ - $\text{C}_{12}$ aralkyl, or

a group of the formula

$-\text{X}_2-\text{X}_3$  (II), wherein

$\text{X}_2$  is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{NR}_{14}-$ ,  $-\text{CO}-$ ,  $-\text{CONH}-$ ,  $-\text{CONR}_{15}-$ , or  $-\text{COO}-$  as linking bridge,  $\text{X}_3$  is OH,  $\text{NH}_2$ ,  $-\text{C}(\text{R}_{11})=\text{CH}_2$ ,  $-\text{OC}(\text{O})-\text{C}(\text{R}_{12})=\text{CH}_2$ ,  $-\text{C}(\text{O})-\text{C}(\text{R}_{12})=\text{CH}_2$ ,  $\text{C}_5-$



$-\text{OC}(\text{O})-\text{N}-\text{X}_4-\text{N}-\text{C}(\text{O})-\text{O}-\text{X}_5-\text{O}-\text{C}(\text{O})-\text{C}(\text{R}_{12})=\text{CH}_2$ ; wherein

$\text{R}_{11}$  is hydrogen, or  $\text{C}_1$ - $\text{C}_4$ alkyl, or halogen,

$\text{R}_{12}$  is hydrogen,  $\text{C}_1$ - $\text{C}_4$ alkyl, or halogen,

$\text{R}_{13}$  is hydrogen,  $\text{C}_1$ - $\text{C}_4$ alkyl, or  $\text{C}_6$ - $\text{C}_{12}$ aryl,

$\text{R}_{14}$  and  $\text{R}_{15}$  are independently of each other hydrogen,  $\text{C}_1$ - $\text{C}_6$ alkyl, or  $\text{C}_6$ - $\text{C}_{12}$ aryl,

$\text{R}_{16}$ ,  $\text{R}_{17}$ ,  $\text{R}_{18}$  and  $\text{R}_{20}$  are independently of each other hydrogen,  $\text{C}_1$ - $\text{C}_{18}$ alkyl,  $\text{C}_6$ - $\text{C}_{12}$ aryl, or  $\text{C}_7$ - $\text{C}_{12}$ aralkyl,

$\text{R}_{19}$  is  $\text{C}_1$ - $\text{C}_{18}$ alkyl,  $\text{C}_6$ - $\text{C}_{12}$ aryl, or  $\text{C}_7$ - $\text{C}_{12}$ aralkyl, and

$\text{X}_4$  and  $\text{X}_5$  are independently of each other an alkylene, arylene, aralkylene or cycloalkylene spacer,

$\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$ ,  $\text{R}_6$ ,  $\text{R}_7$ , and  $\text{R}_8$  can also be a group of formula

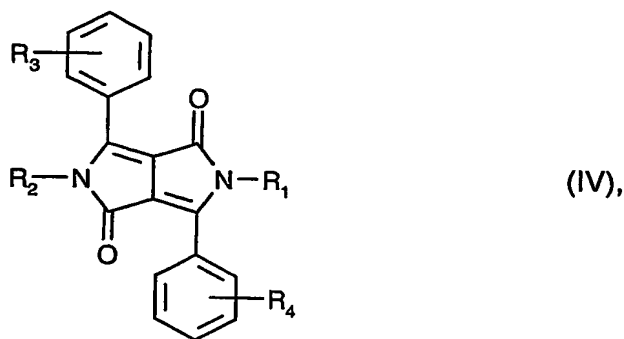
$-\text{X}_1-\text{X}_2-\text{X}_3$  (III), wherein

$\text{X}_1$  is  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{NH}-$ ,  $-\text{CONH}-$ ,  $-\text{COO}-$ ,  $-\text{SO}_2-\text{NH}-$ , or  $-\text{SO}_2-\text{O}-$ , and

$\text{X}_2$  and  $\text{X}_3$  are as defined above,

with the proviso that at least one, preferably two, of the groups of the formula (II) and/or (III) is present per molecule.

2. A colour filter according to claim 1, wherein the pigment has the general formula



wherein  $R_1$  and  $R_2$  are independently of each other a group of the formula

$-X_2-X_3$  (II), wherein

$X_2$  is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally a group  $-O-$ ,  $-S-$ ,  $-NR_{14}-$ ,  $-CO-$ ,  $-CONH-$ ,  $-CONR_{15}-$ , or  $-COO-$  as linking bridge,

$X_3$  is  $-OH$ ,  $-NH_2$ ,  $-C(R_{11})=CH_2$ ,  $-OC(O)-C(R_{12})=CH_2$ ,  $-C(O)-C(R_{12})=CH_2$ , or  $-OC(O)-N-X_4-N-C(O)-O-X_5-O-C(O)-C(R_{12})=CH_2$ ; wherein

$R_{11}$  is hydrogen, or methyl,

$R_{12}$  is hydrogen, or methyl,

$R_{14}$  and  $R_{15}$  are independently of each other hydrogen,  $C_1$ - $C_8$ alkyl, or  $C_6$ - $C_{12}$ aryl, and  $X_4$  and  $X_5$  are as defined in claim 1,

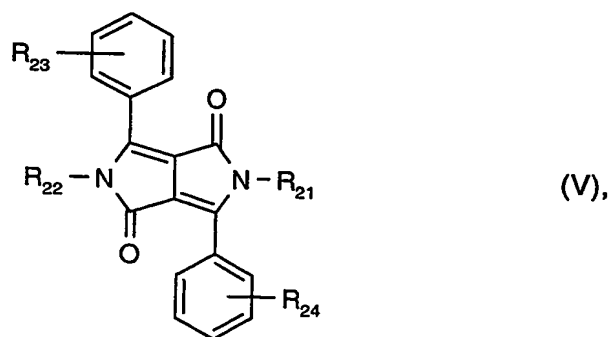
$R_3$  and  $R_4$  independently of one another are hydrogen, halogen,  $C_1$ - $C_{18}$ alkyl,

$C_1$ - $C_{18}$ alkoxy,  $-NR_{16}R_{17}$ ,  $-CONHR_{18}$ ,  $-COOR_{19}$ ,  $-SO_2NH-R_{20}$ ,  $C_1$ - $C_{18}$ alkoxycarbonyl,

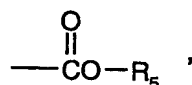
$C_1$ - $C_{18}$ alkylaminocarbonyl,  $-CN$ ,  $-NO_2$ , trifluoromethyl,  $C_5$ - $C_7$ cycloalkyl, wherein  $R_{16}$ ,

$R_{17}$ ,  $R_{18}$ ,  $R_{19}$  and  $R_{20}$  are as defined in claim 1.

3. A colour filter according to claim 1, wherein the pigment has the general formula



in which  $R_{21}$  and  $R_{22}$  are independently of one another hydrogen,  $C_1$ - $C_{18}$ alkyl,  $C_1$ - $C_{18}$ alkyl which is interrupted one or more times by O or S,  $C_7$ - $C_{12}$ aralkyl or a group of the formula



in which  $R_5$  is  $C_1$ - $C_{18}$ alkyl,

$R_{23}$  and  $R_{24}$  independently of one another are a group of formula

$\text{---}X_1\text{---}X_2\text{---}X_3$ , wherein

$X_1$  is  $\text{---O---}$ ,  $\text{---S---}$ ,  $\text{---NH---}$ ,  $\text{---CONH---}$ ,  $\text{---COO---}$ ,  $\text{---SO}_2\text{---NH---}$ , or  $\text{---SO}_2\text{---O---}$ ,

$X_2$  is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups  $\text{---O---}$ ,  $\text{---S---}$ ,  $\text{---NR}_{14}\text{---}$ ,  $\text{---CO---}$ ,  $\text{---CONH---}$ ,  $\text{---CONR}_{15}\text{---}$ , or  $\text{---COO---}$  as linking bridge,

$X_3$  is  $\text{---OH}$ ,  $\text{---NH}_2$ ,  $\text{---C(R}_{11}\text{)=CH}_2$ ,  $\text{---OC(O)---C(R}_{12}\text{)=CH}_2$ ,  $\text{---C(O)---C(R}_{12}\text{)=CH}_2$ , or  $\text{---OC(O)---N---X}_4\text{---N---C(O)---O---X}_5\text{---O---C(O)---C(R}_{12}\text{)=CH}_2$ ; wherein

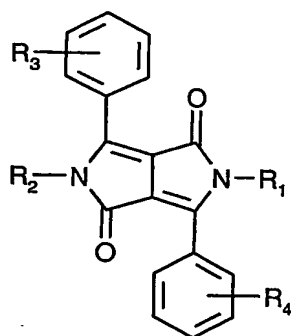
$R_{11}$  is hydrogen, or methyl,

$R_{12}$  is hydrogen, or methyl,

$R_{14}$  and  $R_{15}$  are independently of each other hydrogen,  $C_1$ - $C_8$ alkyl, or  $C_6$ - $C_{12}$ aryl, and

$X_4$  and  $X_5$  are as defined in claim 1.

4. A diketopyrrolopyrrole of the general formula



(IV),

wherein  $R_1$  and  $R_2$  are independently of each other a group of the formula

$\text{---}X_2\text{---}X_3$  (II), wherein

$X_2$  is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups  $\text{---O---}$ ,  $\text{---S---}$ ,  $\text{---NR}_{14}\text{---}$ ,  $\text{---CO---}$ ,  $\text{---CONH---}$ ,  $\text{---CONR}_{15}\text{---}$ , or  $\text{---COO---}$  as linking bridge,

$X_3$  is  $\text{OH}$ ,  $\text{NH}_2$ ,  $\text{---C(R}_{11}\text{)=CH}_2$ ,  $\text{---OC(O)---C(R}_{12}\text{)=CH}_2$ ,  $\text{---C(O)---C(R}_{12}\text{)=CH}_2$ , or  $\text{---OC(O)---N---X}_4\text{---N---C(O)---O---X}_5\text{---O---C(O)---C(R}_{12}\text{)=CH}_2$ ; wherein

$R_{11}$  is hydrogen, or methyl,

$R_{12}$  is hydrogen, or methyl,

$R_{14}$  and  $R_{15}$  are independently of each other hydrogen,  $C_1$ - $C_8$ alkyl, or  $C_6$ - $C_{12}$ aryl, and

$X_4$  and  $X_5$  are as defined in claim 1,

$R_3$  and  $R_4$  independently of one another are  $C_1$ - $C_{18}$ alkyl,  $C_1$ - $C_{18}$ alkoxy,  $-NR_{16}R_{17}$ ,  $-CONHR_{18}$ ,  $COOR_{19}$ ,  $-SO_2NH-R_{20}$ ,  $C_1$ - $C_{18}$ alkoxycarbonyl,  $C_1$ - $C_{18}$ alkylaminocarbonyl, wherein  $R_{16}$ ,  $R_{17}$ ,  $R_{18}$ ,  $R_{19}$  and  $R_{20}$  are  $C_1$ - $C_{18}$ alkyl.

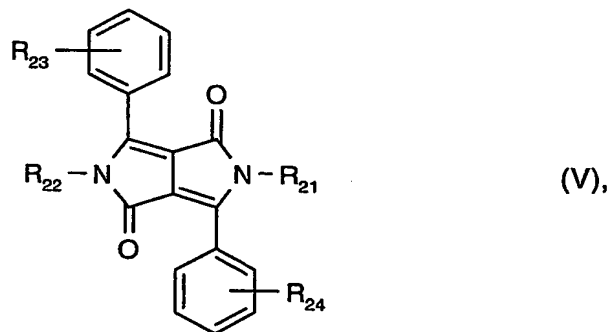
5. A diketopyrrolopyrrole according to claim 4, wherein  $R_1$  and  $R_2$  are independently of each other a radical of the formula

$-X_2-X_3$ , wherein

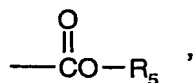
$X_2$  is  $C_1$ - $C_{18}$ alkylene and

$X_3$  is  $-NH_2$ ,  $-OH$ ,  $-CH=CH_2$ ,  $-C(CH_3)=CH_2$ ,  $-CO-CH=CH_2$ ,  $-CO-C(CH_3)=CH_2$ ,  $-CO-CH=CH_2$  or  $-CO-C(CH_3)=CH_2$ .

6. A diketopyrrolopyrrole according to claim 4 or 5, wherein  $R_3$  and  $R_4$  are independently of each other  $C_1$ - $C_{18}$ alkylmercapto,  $C_1$ - $C_{18}$ alkoxy, or  $-NR_{16}R_{17}$ , wherein one of the groups  $R_{16}$  and  $R_{17}$  is hydrogen and the other is  $C_1$ - $C_{18}$ alkyl or both groups  $R_{16}$  and  $R_{17}$  are independently of each other  $C_1$ - $C_{18}$ alkyl.
7. A diketopyrrolopyrrole of the general formula



in which  $R_{21}$  and  $R_{22}$  are independently of one another hydrogen,  $C_1$ - $C_{18}$ alkyl,  $C_1$ - $C_{18}$ alkyl which is interrupted one or more times by O or S,  $C_7$ - $C_{12}$ aralkyl or a group of the formula



in which  $R_5$  is  $C_1$ - $C_{18}$ alkyl,

$R_{23}$  and  $R_{24}$  independently of one another are a group of formula

-X<sub>1</sub>-X<sub>2</sub>-X<sub>3</sub>, wherein

X<sub>1</sub> is -O-, -S-, -NH-, -CONH-, -COO-, -SO<sub>2</sub>-NH-, or -SO<sub>2</sub>-O-.

X<sub>2</sub> is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups -O-, -S-, -NR<sub>14</sub>-, -CO-, -CONH-, -CONR<sub>15</sub>-, or -COO- as linking bridge,

X<sub>3</sub> is -OH, -NH<sub>2</sub>, -C(R<sub>11</sub>)=CH<sub>2</sub>, -OC(O)-C(R<sub>12</sub>)=CH<sub>2</sub>, -C(O)-C(R<sub>12</sub>)=CH<sub>2</sub>, or

-OC(O)-N-X<sub>4</sub>-N-C(O)-O-X<sub>5</sub>-O-C(O)-C(R<sub>12</sub>)=CH<sub>2</sub>; wherein

R<sub>11</sub> is hydrogen, or methyl,

R<sub>12</sub> is hydrogen, or methyl,

R<sub>14</sub> and R<sub>15</sub> are independently of each other hydrogen, C<sub>1</sub>-C<sub>8</sub>alkyl, or C<sub>6</sub>-C<sub>12</sub>aryl, C<sub>1</sub>-C<sub>4</sub>alkyl, or C<sub>6</sub>-C<sub>12</sub>aryl, and

X<sub>4</sub> and X<sub>5</sub> are independently of each other an an alkylene, arylene, aralkylene or cycloalkylene spacer.

8. A diketopyrrolopyrrole according to claim 7, wherein R<sub>23</sub> and R<sub>24</sub> independently of one another are a group of formula

-X<sub>1</sub>-X<sub>2</sub>-X<sub>3</sub>, wherein

X<sub>1</sub> is -S-, -SO<sub>2</sub>NH- or -NH-,

X<sub>2</sub> is a C<sub>1</sub>-C<sub>18</sub>alkylene group, and

X<sub>3</sub> is -OH, -NH<sub>2</sub>, -CH=CH<sub>2</sub>, -C(CH<sub>3</sub>)=CH<sub>2</sub>, -CO-CH=CH<sub>2</sub>, -CO-C(CH<sub>3</sub>)=CH<sub>2</sub>, -CO-CH=CH<sub>2</sub>, or -CO-C(CH<sub>3</sub>)=CH<sub>2</sub>.

9. A diketopyrrolopyrrole according to claim 7 or 8, wherein R<sub>21</sub> and R<sub>22</sub> independently of one another are hydrogen, or C<sub>1</sub>-C<sub>18</sub>alkyl.

10. A polymer, obtainable by polyreacting a mixture consisting of  
 (A) from 0.5 to 20, preferably from 1 to 10 % by weight, based on the sum of the components (A) and (B), of a diketopyrrolopyrrole IV or V, and  
 (B) from 99.5 to 80, preferably from 99 to 90 % by weight, based on the sum of the components (A) and (B), of a monomer which is copolymerisable with the diketopyrrolopyrroles IV and V,  
 the sums of (A) and (B) making up 100 % by weight.